



COUNTY BOROUGH OF HALIFAX
HEALTH DEPARTMENT.



ANNUAL REPORT
ON THE HEALTH
OF THE BOROUGH

For the 52 weeks ended Dec. 25th,
1920.

*Printed by Order of
the Health Committee.*

HALIFAX :
Messrs. E. MORTIMER LTD., Printers, Regent Street.

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1921.



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Mayor.

ALDERMAN T. HEY, J.P.

ALDERMAN W. M. BRANSON, *Chairman*.

COUNCILLOR J. T. FOSTER, *Vice-Chairman*.

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„ F. DENTON.

Councillor H. TURNER.

„ T. N. HELLIWELL.

„ W. GREENWOOD.

„ A. G. FARRAR.

„ E. W. LYON.

„ M. HALL.

„ P. BARRETT.

„ J. W. YEARSLEY.

„ F. SLATER.

Sub-Committees

Appointed by the Health Committee.

Hospital Sub-Committee.

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THE CHAIRMAN.

VICE-CHAIRMAN.

ALDERMAN WADDINGTON.

COUNCILLOR SLATER.

COUNCILLOR DENTON.

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Accounts Sub-Committee.

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COUNCILLOR BARRETT.

VICE-CHAIRMAN.

„ HALL.

COUNCILLOR LYON.

COUNCILLOR SLATER.

„ FARRAR.

Housing Committee.

The Members of the Health Committee.

Maternity and Child Welfare Committee.

The Health Committee with the following additional Members:—

MR. CHARLES NUNN.

MRS. LAVINIA LUMB.

MISS ETHEL DENTON.

MISS FLORENCE WHITLEY.

Staff of the Health Department.



JAS. T. NEECH, M.D., D.P.H.,

Medical Officer of Health, Superintendent of the Borough Fever
Hospital, and Chief Tuberculosis Officer.

D. M. TAYLOR, M.A., M.D., D.P.H.,

Assistant Medical Officer of Health, Clinical Tuberculosis Officer and
Resident Medical Officer, Sanatorium.

A. LATCHMORE, M.D., ED.

Assistant Medical Officer of Health and Medical Officer to Maternity and
Child Welfare Centre.

H. T. LEA, B.Sc. (Hons.) M.Sc.; A.I.C., Public Analyst.

J. POLLARD, M.R.C.V.S., D.V.S.M.,
Veterinary and Meat Inspector.

J. E. FIRTH. H. G. CLINCH. F. TEAL.

J. G. WALSHAW, District Sanitary Inspectors.

E. WILSON, Assistant Sanitary Inspector.

T. FEARNLEY, Shops Inspector.

DAVID TRAVIS, A.R.S.I., F.S.I.A.,
Inspector of Canal Boats, Fertilizers and Feeding Stuffs Act.

ALICE M. THOMPSON, C.M.B., Senior Lady Health Visitor.

E. R. ORAM, C.M.B., E. MARSHALL, M. E. DICKENS, C.M.B.,
Assistant Lady Health Visitors.

E. G. TINDLE, Tuberculosis Nurse.

J. W. JACKSON, Chief Clerk.

CHARLES CARLTON. HARRY LEAPER.
Assistant Clerks.

M. ROBISON, Matron of the Borough Hospital and Sanatorium.

A. KITCHEN, T. ARMSTRONG,
Laundry Engineer and Disinfecter. Porter.

P. SHARPE, Removal Officer.

W. DAVIDSON, Matron in charge, Sanatorium.

T. S. MUMBY, W. FLEMING,
Gardener. Porter.

A. GREENWOOD, Caretaker, Smallpox Hospital.

COUNTY BOROUGH OF HALIFAX.

REPORT OF THE MEDICAL OFFICER OF HEALTH, FOR THE YEAR 1920.

INTRODUCTION AND A RETROSPECT.

*To the Chairman and Members of the Health
Committee.*

GENTLEMEN,

I have the honour of presenting you with my 21st Report, which is the 48th Annual Report of the Medical Officer of Health for the Borough.

Since I am now completing my 21st year as your chief medical advisor, it may be interesting to shortly review the growth of the work of the Department, during the past 21 years.

During that period a number of Acts of Parliament, both general and local, have been passed into law, and have greatly added to the work, and increased the responsibilities of both your Committee and its officials.

When I came here the only Institutions under your charge and direction were the Borough Fever Hospital, Stoney Royd, and accommodation for 12 Smallpox patients at Belle Vue. Since then a block of 12 beds has been added to the former, and a new and commodious kitchen has been constructed as well as a block containing 24 beds added to the Smallpox Hospital. Moreover, a small administrative block was built in connection with the latter Institution, chiefly from funds obtained from outside Authorities, through entering into an agreement with them to treat their cases of Smallpox.

In passing I might mention that 21 years ago the Health Committee proposed to construct a large permanent Hospital at Belle Vue for Smallpox at an estimated cost of £12,000. I prevailed upon the Committee to forego this scheme and trust rather to more temporary buildings. This was done, and seeing that about 18 years ago we passed through a rather extensive epidemic of Smallpox, and coped with it successfully, is a proof I think that my advice was to the best advantage of the Borough from at any rate an economic standpoint. Moreover the buildings are there still should they be required at any time.

To-day besides the above Institutions we have a Sanatorium at Shelf, for the treatment of Tuberculosis. A Tuberculosis Dispensary in Clare Road, together with a Municipal Laboratory, for bacteriological work, also 12 beds set apart for Tuberculosis at Stoney Royd Fever Hospital, and 10 beds in Bermerside Residential Home for closed cases of tuberculosis in children.

Proposals have been made for the treatment of Surgical Tuberculosis at the Infirmary, and for the establishment of a Sanatorium for children, which would have completed the scheme for dealing with Tuberculosis, but these schemes have fallen through for the present at any rate.

We have now also a Maternity and Child Welfare Centre in Wade Street, and two branch centres in other districts. We require a Maternity and Children's Hospital only to complete this scheme.

When I entered upon my duties, as Medical Officer of Health 21 years ago, I was the only full time Medical man in the Corporation service, to-day there are included on the full time medical staff of the Borough, a Clinical Tuberculosis Officer, a Schools' Medical Officer, and Medical Lady in charge of the Maternity and Child Welfare work.

The staff of Sanitary Inspectors remains in numbers similar to what it then was, except that there is now no Chief Sanitary Inspector, but a fully qualified Veterinary Surgeon has replaced the ordinary Meat Inspector. The staff of the department has, however, been increased by the addition of four Lady Health Visitors, for Maternity and Child Welfare work, a Tuberculosis Nurse, as well as a Shops' Inspector, during my tenure of office.

The examination of the Tramway Employees, and of all the gas workers, who are injured in the performance of their work, has been added to my duties, as well as the examination, supervision, certification, etc., of mental defectives in the Borough.

A consideration of the above facts will show to what a marked degree the duties which devolved upon me have increased, and how greatly the responsibilities of my office have been augmented during my tenure thereof.

When I came to Halifax lead poisoning was very prevalent, more particularly in the districts of Northowram, Southowram and Akroydon. This arose from the plumbo solvent character and ineffectual treatment of the Corporation water supply. I carried out a careful and experimental enquiry into the matter, and recommended the addition of a small quantity of hydrated lime in the form of milk of lime to the water—this was eventually done with most beneficial results. Subsequently complaints were frequently received from Hipperholme and Brighouse that lead poisoning was prevalent in these districts. Eventually I prevailed upon the Waterworks Committee to treat with milk of lime the whole of the Halifax water supply, this was done and the result has been most satisfactory. I am not aware that any case of lead poisoning from the Halifax water has occurred for many years, and no complaints of such have been received from outside districts. I congratulate the Waterworks Committee on this achievement, because not only has lead poisoning disappeared, but I am sure the general health of the community has benefitted thereby. The presence of even minute quantities of lead in water, even where no poisonous symptoms occur is detrimental to health, and I consider this one of the most important public health measures that has been carried out during my tenure of office.

During the earlier years of my Official life in Halifax it was customary to retain even the mildest cases of Scarlet Fever in Hospital for a period of 8 weeks. On reflection I began to be doubtful if this were necessary, and I determined if possible to test its accuracy or otherwise. Accordingly I carefully enquired into the date of onset, and the relation of secondary to primary cases with regard to the probable dates of infection and development, and other details in over 2,000 cases of the disease. This enquiry involved a great amount of work, and an immense number of calculations, which though simple in character meant a great deal of labour. As a result I arrived at the conclusion that the infectious period in simple and uncom-

plicated cases of the disease was in the large majority of cases over in 4 weeks from the date of notification. Consequently I determined to commence to discharge such cases from the Hospital after a stay therein of that period, irrespective of whether desquamation had ceased or not. I have continued to act on that principle during the past 12 years with eminently satisfactory results. There have been fewer return cases than previously obtained, and the Hospital proved to be as efficient in controlling the disease if not even more so than before this change was adopted. This reduction of 4 weeks stay in Hospital has meant a considerable saving to the rates, and moreover, it has nearly doubled the capacity of the Hospital. Had this change not been adopted it is quite certain that the Hospital would have needed to have been extended by the addition of one or two more wards, so that several thousand pounds of capital expenditure was also obviated.

The milk supply to the Borough has received my constant attention, and not only has good work been done in connection therewith through the efforts of my Inspectors, but I have lectured to the farmers on several occasions and also the public upon this question, and although there is still much to be desired in the way of improvement regarding cleanliness in the production of milk, yet considerable progress has been made in this direction during the past 20 years. The farmer is very conservative in his methods, and it takes a long time and a good deal of pressure to secure the much needed reforms.

A new set of regulations relating to Dairies and Cowsheds were adopted some years ago, and 128 cowsheds have been rebuilt or reconstructed on more sanitary lines. A few farmers have also been prevailed upon to cool their milk immediately it comes from the cow and supply the same in bottles. The process of cooling milk with an efficient apparatus should be adopted by every farmer, and I hope the time will soon arrive when they will be required to do this by Regulation.

Previously to the war good progress was being made with house-to-house inspection, and a number of houses unfit for habitation were condemned and demolished, while a large number in which defects were found were remedied.

Generally speaking house drains are in a much better condition than was the case 20 years ago. At that time it was an easy matter to find defective drains, but now through the vigilance of the Sanitary Inspectors such defects are much less frequently found. A great many

Mr. Green has supplied me with a general summary of his observations as follows:—

General Summary of Meteorological Observations taken at the Public Library, Belle Vue, from January 1st, 1920, to December 31st, 1920.

By E. GREEN, LIBRARIAN.

LATITUDE OF STATION = 53° 43' N.

LONGITUDE = 1° 52' W.

HEIGHT ABOVE SEA LEVEL = 625 FEET.

| 1920. | Pressure of Atmosphere in Month. | | Temperature of Air in Month. | | | | | | | Mean Temperature. | | Vapour. | | | Mean degree of Humidity, Saturation=100. | Mean Weight of a cubic foot of Air. | Mean Reading of Thermometer. | | Wind. | | | | | | | | | | Rain. | | REMARKS |
|--------------|----------------------------------|--------|------------------------------|---------|--------|-----------------|----------------|--------------|------------|-------------------|----------------|-------------------------|----------------------|-------------------------|--|-------------------------------------|------------------------------|---------------------|------------------------|------|----|------|----|------|----|------|-----------------------|----------------------|-------------------|-------|--|
| Month. | Mean at 32° F. and Sea Level. | Range. | Highest. | Lowest. | Range. | Mean. | | | (Adopted.) | Dew Points. | Elastic Force. | In a cubic foot of Air. | | Maximum in Rays of Sun. | | | Minimum on Grass. | Estimated Strength. | Relative proportion of | | | | | | | | Mean amount of Cloud. | No. of Days it fell. | Amount Collected. | | |
| | | | | | | Of all Highest. | Of all Lowest. | Daily Range. | | | | Mean. | Short of Saturation. | | | | | | N. | N.E. | E. | S.E. | S. | S.W. | W. | N.W. | | | | Calm. | |
| | in. | in. | ° | ° | ° | ° | ° | ° | ° | ° | in. | gr. | gr. | | gr. | ° | ° | | | | | | | | | | | | | in. | |
| January | ... 30.209 | 1.688 | 53.2 | 26.3 | 26.9 | 44.5 | 34.2 | 10.3 | 40.1 | 37.2 | .221 | 2.6 | .4 | 84 | 514.0 | 57.4 | 32.1 | 2.7 | 0 | 1 | 3 | 1 | 5 | 11 | 11 | 8 | 6 | 6.8 | 21 | 4.52 | The observations have been reduced to mean values by Glaisher's Barometrical & Diurnal Range Tables, and the Hygrometrical results have been deduced from the seventh edition of Hygrometrical Tables, after corrections for Index errors of the Instruments employed. |
| February | ... 30.098 | 1.100 | 57.3 | 27.7 | 29.6 | 46.7 | 35.8 | 10.9 | 41.3 | 38.1 | .229 | 2.7 | .2 | 89 | 545.0 | 70.5 | 32.7 | 2.0 | 3 | 0 | 0 | 4 | 0 | 14 | 3 | 6 | 13 | 6.5 | 14 | 3.08 | |
| March | ... 29.825 | 1.830 | 61.0 | 25.1 | 35.9 | 48.9 | 36.2 | 12.7 | 44.6 | 39.0 | .246 | 2.8 | .4 | 82 | 545.0 | 82.1 | 34.6 | 2.4 | 0 | 0 | 0 | 1 | 4 | 9 | 8 | 19 | 8 | 5.0 | 17 | 2.78 | |
| April | ... 29.627 | 1.182 | 54.5 | 33.3 | 21.2 | 47.6 | 37.4 | 10.2 | 44.6 | 39.2 | .251 | 2.9 | .5 | 83 | 535.0 | 80.7 | 36.4 | 2.0 | 0 | 8 | 5 | 6 | 2 | 4 | 9 | 2 | 8 | 6.4 | 27 | 4.53 | |
| May | ... 29.987 | 1.054 | 74.6 | 36.0 | 38.6 | 55.7 | 41.8 | 13.9 | 51.4 | 43.6 | .282 | 3.3 | 1.3 | 72 | 531.0 | 96.3 | 40.3 | 2.2 | 1 | 0 | 2 | 2 | 1 | 9 | 10 | 7 | 13 | 6.7 | 20 | 4.76 | |
| June | ... 29.994 | 0.614 | 74.7 | 38.2 | 36.5 | 62.4 | 46.0 | 16.4 | 57.4 | 44.0 | .290 | 3.2 | 1.8 | 57 | 532.0 | 106.5 | 45.2 | 2.0 | 3 | 5 | 7 | 4 | 1 | 5 | 4 | 9 | 9 | 6.2 | 10 | 2.67 | |
| July | ... 29.818 | 0.834 | 66.6 | 45.7 | 20.9 | 59.4 | 48.4 | 11.0 | 56.5 | 49.3 | .351 | 3.9 | 1.3 | 75 | 519.0 | 100.6 | 48.3 | 2.1 | 1 | 1 | 1 | 2 | 3 | 11 | 7 | 19 | 4 | 8.0 | 22 | 7.29 | |
| August | ... 30.065 | 1.054 | 68.1 | 42.2 | 25.9 | 59.7 | 47.5 | 12.2 | 56.4 | 48.6 | .346 | 3.9 | 1.2 | 73 | 526.0 | 101.5 | 46.4 | 1.2 | 3 | 0 | 0 | 0 | 0 | 7 | 6 | 12 | 18 | 5.5 | 13 | 1.13 | |
| September | ... 30.028 | 1.016 | 67.9 | 38.5 | 29.4 | 61.6 | 45.8 | 15.8 | 55.3 | 48.2 | .340 | 3.8 | .8 | 76 | 532.0 | 93.6 | 44.2 | 1.0 | 1 | 3 | 0 | 1 | 1 | 5 | 3 | 10 | 23 | 6.5 | 13 | 2.01 | |
| October | ... 29.997 | 0.982 | 65.5 | 36.0 | 29.5 | 54.6 | 43.7 | 10.9 | 50.7 | 46.9 | .322 | 3.6 | .6 | 86 | 540.0 | 77.0 | 41.6 | 1.0 | 0 | 0 | 13 | 9 | 1 | 0 | 0 | 0 | 25 | 6.0 | 12 | 2.83 | |
| November | ... 30.023 | 1.078 | 58.0 | 29.8 | 28.2 | 47.6 | 38.7 | 8.9 | 44.2 | 40.7 | .253 | 2.9 | .5 | 85 | 547.0 | 70.3 | 36.5 | 1.0 | 0 | 4 | 0 | 1 | 3 | 9 | 7 | 5 | 19 | 7.7 | 11 | 1.89 | |
| December | ... 29.946 | 1.420 | 53.4 | 21.1 | 32.3 | 42.3 | 34.3 | 8.0 | 38.9 | 36.0 | .212 | 2.5 | .4 | 88 | 548.0 | 49.5 | 31.3 | 1.5 | 5 | 7 | 3 | 2 | 0 | 6 | 3 | 3 | 17 | 7.0 | 18 | 4.01 | |
| Annual Means | 29.976 | 1.154 | 62.9 | 33.3 | 29.5 | 52.5 | 40.8 | 11.7 | 48.4 | 42.5 | .280 | 3.1 | .7 | 79 | 534.0 | 82.1 | 39.1 | 1.7 | 1 | 2 | 2 | 2 | 1 | 7 | 6 | 8 | 13 | 6.0 | | | |

The Mean Monthly Readings of the Earth Thermometer, four feet below the surface, were as follows:—

January, 41°

March, 42°

May, 47°

July, 53°

September, 53°

November, 48°

February, 42°

April, 44°

June, 51°

August, 54°

October, 52°

December, 44°

Highest Readings = 54° from July 27th to Sept. 18th.

Lowest Readings = 41° from Jan. 13th to Feb. 3rd.

Rain fell on 198 days, and measured 41.50 inches.

improvements have been carried out by the quiet work of the District Inspectors which never comes to the knowledge of your Committee, such as the reconstruction and rearrangement of sanitary conveniences, ashes tub places, and even conversions to W.C.'s. On making periodical inspections I have often been struck with the amount and character of such improvements.

The goux system of dealing with night soil, however, still prevails, but it would appear that the Council is beginning to waken up to the necessity of replacing the same by the water carriage system. I have been advocating this change for twenty years, and it is my one regret that I am leaving the town without having been able to bring about this reform. These great changes it would appear require time to mature, and a great deal of spade work has to be done in preparation for their inception, I must, therefore, rest content with the knowledge that I have done something to pave the way for my successor to secure its accomplishment. It is some source of satisfaction to me, however, to know that I have been able to secure the conversion to W.C.'s of practically all the remaining privy middens which existed in the central portion of the Borough, also in connection with many of the factories improved sanitary conveniences have been instituted to replace older forms of W.C.'s, or other forms of closet accommodation. The number of W.C.'s existing in the Borough when I came to the town was 4,381, and the number now is 8,450.

The Manipulator at Charlestown was installed during my tenure of office, and I would remind your Committee that it removed from Beacon Hill a very serious nuisance. The whole hillside in the vicinity of the tip and just above the Hospital was becoming polluted, and offensive smells were continually being felt in the Hospital itself. It is quite true that complaints of a similar kind are made about the Charlestown works, but I contend that this need not be if this material were efficiently dealt with. The cause of the offensive smells is active decomposition owing to heat, and the moisture in the material, and by the way, I notice a furnace has been constructed in the immediate vicinity where this material is dealt with, the heat from which will tend to aggravate the condition of things.

Now if this garbage were dried or mixed with dry material that would absorb the moisture therefrom decomposition would be arrested. There is plenty of the latter material available in house refuse, and if a sufficient quantity of this dry dust were either passed through the

manipulator with the garbage, or efficiently mixed therewith afterwards, there would then be no serious nuisance arising from these works.

It appears to me that quite a third of the house refuse of the Borough, if not more, could be dealt with at Charlston by erecting a separating plant there. The room for such is available. There would then be plenty of dry dust for the Manipulator, dry dust could also be mixed there with gully sludge and street sweepings for manurial purposes, and if there was still a surplus to dispose of it could be carted to the Goux Dépôt and mixed with the night soil, and thus absorb a large quantity of liquid manure, which at present runs down the drains. The tins could be pressed into bundles here and put on the rail and any other sorted material dealt with. But this is not all, there would be a large quantity of fuel salvaged, more than sufficient in my opinion to run the boilers at Stoney Road, and the Greenhouses, etc., at the Sanatorium. This in itself would mean the saving of hundreds of pounds per annum. The machinery to do this need not be of a very costly character. One can be seen at work in Bury, Lancashire, where they have been making over £200 per month in separating their refuse, and I may add the machinery used there is very much on the lines I advocated in a report made to your Committee nearly six years ago.

Having shortly referred to some of the more important sanitary improvements, which have been carried out during the past 21 years, I will now compare some of the average deathrates of to-day with those of that period, and the following table will serve this purpose :—

| | Average for Three Years ending 1900. | Average for Three Years ending 1920. |
|------------------------------------|---|---|
| | per 1000 | per 1000 |
| General Deathrate | 18'0 | 16'1 |
| Zymotic do. | 1'6 | '59 |
| Phthisis do. | 1'44 | 1'04 |
| Tuberculosis Deathrate (all forms) | 2'14 | 1'27 |
| Typhoid Fever do. | '20 | '016 |
| Scarlet Fever do. | '17 | '006 |
| Infant Mortality, per 1000 born... | 154 | 105 |

On referring to the above table it will be observed that the general deathrate has fallen practically 2 per

1,000, which means that an average of 200 less deaths per annum occur now, than obtained 21 years ago. The Zymotic deathrate is over 50% lower, and the deathrate from Phthisis has been considerably reduced, while that from all forms of tuberculosis has also fallen nearly 50 per cent. Typhoid Fever has almost disappeared from the Borough, and the deathrate from Scarlet Fever had diminished to infinitesimal proportions.

I think your Committee on reflection must regard the above figures as highly satisfactory, and a credit to the sanitary administration of your Health Department.

It will be observed that the average Infantile death-rate has during the same period fallen 50 per 1,000 births. From 1900 to 1905 there was a more or less gradual decline in this deathrate, but during 1906 and 1907 there was a marked fall each year to 102 per 1,000 for the latter year. Since then the deathrate has varied considerably from year to year, but there has been no improvement in the average deathrate. During the years 1906 and 1907 I gave a series of lectures throughout the Borough on infectious diseases and infant feeding. The Chairman of the Health Committee at that time, ex-Alderman Coe, took a great interest in the lectures and presided at several of them, and they were generally well attended and appreciated by the public. I also drew up a leaflet on infant feeding, and the care of infants which was widely distributed by the midwives. I cannot but think these efforts for spreading information among the nursing mothers had the effect of reducing our infant mortality to round about 100 deaths per 1,000 born, and these results have on the average not since been improved upon, notwithstanding all the efforts that have been put forth and the money since spent on Maternity and Child Welfare work. I make these remarks simply as statements of fact, and not in any way as a reflection upon what I believe to be the good work now done by our Maternity and Child Welfare Centres, because I think these centres have served to maintain the results achieved, and further I believe they have also been the means of securing a higher standard of health among the infants and children attending these centres. But in my opinion Maternity and Child Welfare work as at present constituted has its limits in reducing infant mortality, and while much is expected from the Ante-Natal Clinics in existence and now being established in the country, though no doubt good will result, I doubt very much if they will have the far-reaching beneficial results anticipated by many. In my

opinion there are causes of infant mortality which at present are untouched, and others about which we have little or no definite knowledge, consequently, there is here a wide field for research. Unless causes are dealt with and removed, remedial effort has very little beneficial and lasting effect. Therefore it would be both unwise and uneconomical, in my opinion, to seriously increase Maternity and Child Welfare work until we possess a wider and more extensive knowledge regarding it in all its bearings and relations, and until means have been devised which will root out and remove the causes of infant mortality, which have so far remained untouched by the methods of our present organizations.

I think I have so far touched upon most of the points I desired to refer to in this the last Annual Report for which I shall likely be responsible. I have now, therefore, only in conclusion to acknowledge the consideration and support, which your Committee has always extended to me throughout my lengthy service, and also the co-operation and assistance of all my assistants and staff. I cannot name any especially because they have one and all always worked in a most loyal and conscientious manner, both for me and the benefit of the public, whom we all serve. I desire to express my thanks to them, and my regret that the time has come when I feel it necessary to lay down the responsibilities of my office, and to wish them all health and strength that they may continue to serve the good old town of Halifax.

I am, Gentlemen,

Yours obediently,

Jas. J. Keech M.D. D.P.H.
Medical Officer of Health.

PUBLIC HEALTH DEPARTMENT,
TOWN HALL,
HALIFAX,

28TH JULY, 1921.

R E P O R T .

| | | | | | |
|---|-----|-----|-----|-----|---------------|
| Area of Borough | ... | ... | ... | ... | 13,984 acres. |
| Registrar's Estimate of Civil Population... | ... | ... | ... | ... | 105,847 |
| Registrar's Estimate of Total Population... | ... | ... | ... | ... | 106,029 |

The birthrate is calculated upon the latter figure, and the deathrate upon the former.

The total number of births registered during the year, belonging to the Borough, was 2,007, against 1,384 for the previous year. This gives a birthrate of 18.9 per 1,000, against 13.0 per 1,000 for the year 1919. This is a satisfactory increase.

There were 121 illegitimate births registered, against 98 during the previous year.

The number of deaths registered, of persons belonging to the Borough was 1,412, which gives a deathrate of 13.3 per 1,000, against 15.4 during the previous year.

With the exception of the year 1910, when the general deathrate was 13.2, this rate is the lowest on record.

The fall in the deathrate was due to a decrease in the number of deaths from nearly all the classified causes, but more particularly to a decrease in the number of deaths from Influenza and Phthisis.

There were only 27 deaths registered from the principal zymotic diseases, against 38 during the previous year. This gives a deathrate of .25 per 1,000, which is the lowest zymotic deathrate on record.

There occurred 193 deaths of infants under 1 year of age, against 135 during the previous year. This gives an infant mortality of 96 per 1,000 births. The average infant mortality for the past 5 years was 103 per 1,000.

There were 4 deaths registered from Syphilis, against 8 during 1919, and 3 during 1918.

The total number of infectious diseases reported was 585, against a total of 638 during the previous year.

The notification of Measles and German Measles was withdrawn, from December 31, 1919, by the Public Health (Measles and German Measles) Regulations, 1915. Re-cission Order, 1919.

The following table shows the number of cases of the various diseases notified :—

| | | | |
|--|-----|-------------------------|-----|
| Typhoid Fever .. | 6 | Encephalitis Lethargica | 1 |
| Scarlet Fever ... | 234 | Influenzal Pneumonia... | 11 |
| Puerperal Fever ... | 2 | Primary Pneumonia ... | 41 |
| Diphtheria ... | 120 | Malaria... .. | 1 |
| Erysipelas ... | 26 | Dysentery ... | 5 |
| Ophthalmia ... | 14 | Pulmonary Tuberculosis | 104 |
| Cerebro-spinal Fever ... | 1 | Other forms ,, | 19 |
| Total number of cases reported ... 585 | | | |

The case of Malaria, and also those of Dysentery reported, were contracted abroad.

Special enquiries were instituted in one case of Encephalitis Lethargica, and also one of Cerebro-spinal Fever, and the usual reports were forwarded to the Ministry of Health.

During the year there were 40 doses of 3,000 units each, of Anti-diphtheria Serum, supplied to medical practitioners.

The number of cases of Scarlet Fever notified was 234, against 86 during the previous year. One death resulted from the disease, giving a deathrate of .009, and a case mortality of .4 per cent.

There were 6 cases of Enteric Fever notified, against 2 during the previous year, but no death occurred from the disease.

It is satisfactory to note that there was a decrease in the prevalence of diphtheria. During the year there were 120 cases notified, against 179 during 1919, and 143 during 1918. Of the above, 5 died, giving a deathrate of .04 per 1,000, and a case mortality of 4.1 per cent.

There were 26 cases of Erysipelas reported, but no death resulted from the disease.

Whooping Cough also appears to have been less prevalent, there being only 6 deaths registered, against 9 during the previous year.

There were 7 deaths from Diarrhoea and Enteritis under two years of age, against 6 during the previous year, giving a deathrate of .06 per 1,000.

It is satisfactory to note that Influenza was also less prevalent. There were 60 deaths registered, against 111 during the previous year, giving a deathrate of .56 per 1,000.

With regard to respiratory diseases, there were 316 deaths, against 305 during the previous year, giving a deathrate of 2.98 per 1,000.

There was a decrease in the number of deaths from Phthisis, viz. 77, against 106 during the previous year. This gives a deathrate of .72 per 1,000. This is the second year in succession I have been able to report a decrease in the number of deaths from the disease, and the deathrate for the past year is the lowest on record.

From other forms of tubercular disease, 16 deaths occurred, thus the total number of deaths from the various forms of tuberculosis was 93, giving a deathrate of .87 against 1.27 during the previous year. This is the lowest deathrate on record in the Borough, from all forms of tubercular disease.

The causes of death from tubercular disease other than Phthisis were as follows :—

| | | | |
|---------------------------|-----|-----|---|
| Tubercular Meningitis | ... | ... | 5 |
| Tuberculous Peritonitis | | | |
| Tabes Mesenterica | ... | ... | 7 |
| Other Tubercular Diseases | ... | ... | 4 |

The number of notifications of tuberculosis was 133, which included 10 duplicate reports, consequently the total number of primary cases notified was 123 for the year. Of these 104 were pulmonary, and 19 non-pulmonary cases.

Dr. Taylor has furnished me with the following report on the work done at the Dispensary and Sanatorium :—

Tuberculosis Dispensary.

| | Insured. | Non-Insured. | Total. |
|--|----------|--------------|--------|
| Notified Persons Visited by the Nurse | 62 | 41 | 103 |
| Repeat Visits by Nurse ... | 567 | 289 | 856 |
| | 629 | 330 | 959 |
| New Cases Examined at the Dispensary | 88 | 55 | 143 |
| Attendances at Dispensary ... | 1133 | 617 | 1750 |

| | |
|--|-----|
| Notifications received from the Health Office ... | 125 |
| Number of Discharged Soldiers attending Dispensary | 91 |
| Number of Discharged Soldiers (Total attendances) | 496 |
| Visits paid by the Nurse to Discharged Soldiers' Houses | 140 |
| Number of cases referred to open-air school or Ber- merside Home | 41 |
| Number of cases treated by tuberculin injection ... | 34 |

Hospital and Sanatorium at Shelf.

During 1920, 133 patients were admitted (54 Halifax, 79 from other areas). Analysing the Halifax residents alone, they were as follows :—

| | Males | Females | Total |
|-------------------------|-------|---------|-------|
| Insured | 15 | 18 | 33 |
| Non-Insured | 3 | 7 | 10 |
| Discharged Soldiers ... | 11 | — | 11 |
| Totals | 29 | 25 | 54 |

Number discharged during the year, 60.

Number remaining in Sanatorium on 31st December, 1920 :

| Year | Insured | Non-Insured | Soldiers | Total |
|------|---------|-------------|----------|-------|
| 1919 | 9 | 0 | 4 | 13 |
| 1920 | 5 | 0 | 2 | 7 |

To show the class of material dealt with, the following (irrespective of technical sub-division into stages) grouping is presented :—

| | Insured | Non-Insured | Soldiers | Total | Per Cent. |
|--|---------|-------------|----------|-------|-----------|
| Group 1 or Early Cases ... | 8 | 3 | 4 | 15 | 28 |
| „ 2 or Moderately Advanced Cases | 17 | 1 | 3 | 21 | 39 |
| „ 3 or Far Advanced or Seriously Complicated Cases ... | 8 | 6 | 4 | 18 | 33 |

There is again a slight improvement in the number of early cases admitted.

The average length of stay was 97 days.

The condition of the patients discharged was as follows :—

| | | | | |
|-----------|--------|--------|-------|--------|
| Improved. | I.S.Q. | Worse. | Dead. | Total. |
| 36 | 15 | 5 | 4 | 60 |

Tuberculosis Wards, Stoney Royd.

These wards were opened for the admission of patients, on February 16th, and the number of patients admitted, to December 31st, 1920, was 38.

| | Males. | Females. | Total. |
|-----------------|--------|----------|--------|
| Insured ... | 16 | 7 | 23 |
| Non-Insured ... | 4 | 11 | 15 |
| Totals | 20 | 18 | 38 |

Number of patients discharged 17

Number of Deaths 10

Number of patients remaining in Hospital on 31st

December, 1920 :— Insured, 4

Non-Insured, 7 11

Of those discharged, the average length of stay was 70.3 days.

Of those who died, the average length of time in Hospital was 53.4 days.

The average length of time in Hospital, for all cases, was 64 days.

Four of the patients discharged were transferred to the Halifax Sanatorium, Shelf.

The condition of the patients discharged were as follows :—

| Much Improved. | Improved. | No Improvement. | Died. |
|-------------------|-----------|--------------------|-------|
| 2 | 11 | 4 | 10 |

The accommodation we have now available in the Borough is as follows :—12 beds for advanced, 25 for Hospital, and 25 for Sanatorium cases respectively.

We evidently now have ample accommodation, because although a number of outside cases are admitted to the Sanatorium, we have had a few vacant beds during most of the year.

The various forms of malignant disease caused 143 deaths, giving a deathrate of .87 per 1,000 for the year.

There were no uncertified deaths registered during the year, and the Coroner held 134 Inquests, which included 20 on persons not belonging to the Borough, and there were 7 Inquests held outside the Borough, on persons belonging thereto.

Water Supply.

The total capacity of the storage and service reservoirs of the Halifax Corporation Waterworks Committee is 1,955,722,000 gallons, and there was a plentiful supply during the year.

Owing to the gathering grounds being chiefly moorland in character, the water is acid in reaction, and requires treatment, in order to reduce its plumbo-solvent action. The treatment adopted many years ago, viz. :—the addition of slaked lime, is still in operation, and has proved very satisfactory in its results, as no case of lead poisoning from drinking water has come to the knowledge of this Department for many years.

The following table shows the effect of the addition of lime to water, in reducing its acidity.

| Month | Average Acidity of Sample of Water, in parts per 100,000 | | | |
|---------------|--|-----------------|------------------------|-----------------|
| | Ogden Reservoir | | Ramsden Wood Reservoir | |
| | Before Treatment | After Treatment | Before Treatment | After Treatment |
| January ... | 1'05 | '27 | No estimation | '21 |
| February ... | '78 | '27 | „ | '23 |
| March ... | 1'00 | '32 | „ | '22 |
| April ... | 1'10 | '20 | „ | '24 |
| May ... | '85 | '27 | „ | '34 |
| June ... | 1'20 | '25 | „ | '33 |
| July ... | '85 | '32 | „ | '35 |
| August... | '80 | '20 | „ | '16 |
| September ... | '70 | '20 | „ | '16 |
| October ... | '80 | '30 | „ | '37 |
| November ... | '65 | '25 | „ | '22 |
| December ... | 1'00 | '34 | „ | '27 |

The water, at times, contains a small quantity of peat, but in every other respect is free from pollution.

Rivers and Streams.

The three streams flowing through the Borough are the Red Beck, the Hebble Brook, and the Wheatley Brook. There is a certain amount of pollution of these streams, but no serious complaint was made during the year. I understand that certain steps have been taken during the year to obviate this pollution, and no doubt further work in this respect will be carried out in the near future.

Drainage and Sewerage.

The main portions of the Borough are efficiently drained, but in certain outlying parts, where the population is sparse, there are no drainage schemes, and cesspools and land drains have to be relied upon for the disposal of sewage.

Mr. Lord, the Borough Engineer, informs me that a new 15in. sewer has been laid in the lower length of Heathy Lane, and it is expected that the 24in. sewer in Holdsworth Road, now in course of construction, will be completed shortly.

The Sludge Pressing House at the Sewage Works is being extended by the installation of a new ram and three presses, in addition to the Sludge Drying and Degreasing Works, which are being erected by Messrs. Land Fertilisers Limited, under agreement with the Corporation to deal with the whole of the pressed sludge.

Closet Accommodation.

Owing to the absence of a sewer and a water supply, one "Goux" closet was erected during the year, but 13 conversions were carried out from the Goux to the water carriage system, so that there was a nett decrease of 12 "Goux" closets during the year.

Now that conditions are more normal, this work will be pressed on during the current and succeeding years.

There are 690 privy middens in existence in the Borough, but they are mostly confined to the outskirts, and more particularly to the districts which have been more recently added thereto.

Where there is a sewer and water supply available, no new buildings are now allowed to have "Goux" closets, and 292 W.C.'s have been instituted during the year.

The number of water closets in the Borough is now 8,450.

Scavenging.

This work is now carried out under the direction of the Scavenging Superintendent, and an improvement has taken place since conditions have become more normal, but it is doubtful if this work has yet reached its pre-war efficiency.

Moveable tubs for the reception of house refuse, are still in existence, but a certain number of these have been replaced during the year by galvanised bins.

The house refuse is chiefly disposed of on Birks Hall tip.

Common Lodging Houses.

One Common Lodging House has been closed by the owner, so that there are now 9 only registered in the Borough, and they accommodate 565 lodgers. They are under the supervision of the police, and I understand no complaint has arisen during the year.

Sanitary Inspection.

The District Sanitary Inspectors carry out the inspection of Factories and Workshops, and the number of visits paid for this purpose during the year are set out in the following table :—

| District | Number of Visits made to Factories | Number of Visits made to Workshops |
|-----------|---------------------------------------|---------------------------------------|
| A | 76 | 209 |
| B | 137 | 179 |
| C | 85 | 217 |
| D | 60 | 32 |
| Total ... | 358 | 637 |

The following tables indicate the nature and number of the various sanitary defects, and the amount of work carried out by the Sanitary Inspectors in their respective districts :—

DISTRICT A.

INSPECTOR JOHN GEORGE WALSHAW.

Number of Workshops on the Register 238.

| Nature of Defects | Number Registered |
|---|-------------------|
| IN FACTORIES. | |
| Closets Opening Direct into Workroom | 21 |
| Insufficient Closet Accommodation | 5 |
| Closets insufficiently ventilated | 4 |
| Do. screened | 2 |
| Offensive Closets | 2 |
| Defective and Made-up Drains | 2 |
| IN WORKSHOPS. | |
| Rooms Requiring Limewashing | 9 |
| Dirty Closets | 4 |
| Closets opening direct in workroom | 2 |
| Total ... | 51 |

DISTRICT B.

INSPECTOR H. G. CLINCH.

Number of Workshops on the Register 284.

| Nature of Defects | Number Registered |
|---|-------------------|
| IN FACTORIES. | |
| Insanitary Closet Accommodation | 1 |
| Insufficient do. | 2 |
| Lack of do. | 2 |
| Want of Ventilation to Closets | 3 |
| Do. Intervening Space to W.C.'s | 10 |
| Do. Light to W.C.'s | 1 |
| W.C.'s Unscreened | 1 |
| IN WORKSHOPS. | |
| Want of Closet Accommodation | 4 |
| Do. Intervening Space | 6 |
| Do. Separate Accommodation for Sexes | 3 |
| Dirty condition of Workshop | 7 |
| No Abstract of Factory Act, 1901 | 4 |
| Defective Gas Flue, Offensive Fumes | 1 |
| Defective Fall Pipes | 2 |
| Total ... | 47 |

DISTRICT C.

INSPECTOR JAMES EDWARD FIRTH.

Number of Workshops on the Register 147.

| Nature of Defects | Number Registered |
|---|-------------------|
| IN FACTORIES. | |
| Want of Closet Accommodation | 2 |
| Insanitary do. | 1 |
| Want of Seat to W.C. | 1 |
| Do. Intervening Ventilated Space | 4 |
| Do. Ventilation to W.C. | 2 |
| IN WORKSHOPS. | |
| Dirty condition of Workshop | 1 |
| Want of Closet Accommodation | 1 |
| Do. Intervening Ventilated Space | 2 |
| Total ... | 14 |

DISTRICT D.

INSPECTOR FRED TEAL.

Number of Workshops on the Register 52.

| Nature of Defects | Number Registered |
|---|-------------------|
| IN FACTORIES. | |
| Offensive Fumes | 1 |
| Polluted Drinking Water | 2 |
| Want of Intervening Ventilated Space | 1 |
| IN WORKSHOPS. | |
| Workrooms requiring Limewashing | 1 |
| Insufficient Closet Accommodation | 1 |
| Total ... | 6 |

From the above tables it will be observed that there were 118 nuisances and sanitary defects dealt with during the year compared with 168 during the previous year.

The number of sanitary defects which remained unabated at the end of the previous year was 107, which, added to the number above referred to, make a total of 225. Of these 140 were remedied, and 85 remained unabated at the end of the year.

The notices of sanitary defects received from the Factory Inspector numbered 61 against 55 during the previous year. Attention was given thereto, and after the defects were remedied, notice thereof was sent to the Factory Inspector to the number of 69.

The excess in the number of notices of abatement over notices received, was due to the securing of certain alterations which had been standing over during the war period. These arrears are being gradually cleared up.

Outworkers.

There were 16 lists of outworkers received during the year, and the number of outworkers reported as being employed was as follows :—

| | Tailors | Knitters | Paper Bag Makers | Worsted Coating Menders | Total |
|-------------------|---------|----------|---------------------|-------------------------------|-------|
| No. of Outworkers | 9 | 2 | 3 | 20 | 34 |

There were 12 outworkers reported at this office, carrying on business at Sowerby Bridge, Bradford, Keighley, Huddersfield, Shelf, and Norwood Green, employed by Halifax firms, and they were duly reported to those districts, and 6 outworkers at Halifax, employed by firms at Manchester, Bradford, and Sowerby Bridge, are included in the above list.

I referred in my Annual Report last year, to the fact that we had reason to believe that a number of outworkers were employed in the Borough, who were not reported to this office. Enquiries were made, and the increase in the number reported is no doubt due thereto.

The Sanitary Inspectors paid 59 visits to the outworkers, and a number who have workshops of their own, were also visited in that capacity by the Inspectors.

Bakehouses.

The Sanitary Inspectors paid 249 visits to the bakehouses during the year, and the following table gives the number and character of the defects reported.

| Nature of Defects. | Number Reported | Number Remedied. |
|--|-----------------|------------------|
| Want of W.C. Accommodation ... | 1 | |
| Dirty condition of ceiling and walls ... | 2 | 2 |
| Made-up Sink Drains | 1 | 1 |
| Insufficient Closet Accommodation ... | 1 | 1 |
| Defective Floor | 1 | 1 |
| Requiring Limewashing | 17 | 17 |
| No Abstract of Factory and Workshop Act, 1901 | 1 | 1 |
| Totals ... | 24 | 23 |

It will be observed that the chief defects referred to in the above table, are limewashing. It is evident that many of the proprietors fail to carry out this necessary work until they are pressed to do so.

Ice Cream Makers and Vendors

It appears that the majority of Ice Cream Makers have resumed their occupation, and if anything, the itinerant vendors have increased in number.

The Inspectors paid 32 visits during the year to premises used for this purpose, and 1 complaint was received regarding the dirty condition of premises, and another regarding the unsatisfactory condition of the store room. These complaints were duly attended to.

Notices.

The total number of notices served during the year was as follows :—Informal notices, 396 ; Statutory notices, 34 ; and the result was that 874 of the defects were remedied, and 513 were unabated at the end of the year.

Offensive Trades.

The number of offensive trades carried on in the Borough, during the year, was as follows :—

| | | |
|---------------|-----|----|
| Bone Boilers | ... | 3 |
| Blood Boilers | ... | 1 |
| Soap Boilers | ... | 2 |
| Tripe Boilers | ... | 10 |
| | | — |
| Total | | 16 |

These premises were kept under supervision, and on the whole, were conducted in a satisfactory manner. One complaint, regarding the defective condition of floor, was duly attended to.

The work carried out by the Sanitary Inspectors during the year is shown in tabular form as follows :—

| Nature of Nuisance | Number Reported |
|--|-----------------|
| Defective Sink Drains | 95 |
| „ Sink Pipes | 29 |
| „ Syphon Traps | 20 |
| „ Basement Drains | 16 |
| „ Yard Drains | 33 |
| „ Urinal Drains | 5 |
| „ Water Closet Drains and Soil Pipes | 42 |
| „ Area Drains | 16 |
| „ Sink Drains | 16 |
| Made-up Sink Pipes and Drains .. | 59 |
| „ Bath and Lavatory Waste Pipes | 4 |
| „ Basement Drains | 14 |
| „ Water Closets | 30 |
| „ Yard Drains | 34 |
| „ Urinal Drains | 1 |
| „ Gullies | 35 |
| „ Private Street Drains | 3 |
| „ Intercepting Traps | 7 |
| Untrapped Basement Drains | 1 |
| „ Sink Waste Pipes and Drains | 11 |
| „ Area Drains | 4 |
| „ Yard Drains | 1 |
| Drains not efficiently trapped :— | |
| Sink Drains | 14 |
| Yard Drains | 1 |
| Sink Drains and Pipes requiring Disconnecting | 35 |
| Defective Fallpipe Drains | 31 |
| „ Fallpipes | 36 |
| „ Spouting | 83 |
| „ Roofing | 53 |
| Broken Pot and Iron Traps | |
| Insufficient supply of water to Closets | 4 |
| Nuisances from Water in Cellar | 27 |
| „ Want of Drains | 1 |
| „ Swine | 5 |
| „ Animals | 5 |
| Houses Overcrowded | 1 |
| „ requiring Limewashing | 12 |
| Accumulations of Offensive Matter | 20 |
| Privies requiring Limewashing | 1 |
| Want of Water Supply... .. | 6 |
| Insufficient Privy Accommodation | 2 |
| Offensive Ashpits and Privies | 9 |
| „ Goux Closets | 44 |
| „ Ashes tubs | 38 |
| Doors off Closets and Ashes tub Places | 61 |
| Polluted Drinking Water | 9 |
| Dilapidated Closets and Ashes tub Places | 30 |
| Ashpits requiring reconstruction | 2 |
| Goux Closets to convert to Water Closets | 2 |
| Offensive Street Gullies | 4 |
| Damp House Walls | 27 |
| Insufficient Ventilation | 14 |
| Miscellaneous | 129 |

Furnished Rooms and Houses Let in Lodgings.

There was a slight diminution in the number of furnished rooms and houses let in lodgings during the year. There are now 173 on the register. To these 253 visits were paid by the Inspectors, and 18 were found to be in a dirty condition, while in 2 cases defective roofs were reported, and in 3 others, insufficient ventilation. These defects were all remedied. The remainder were found to be kept in a fairly satisfactory condition.

Cellar Dwellings.

Owing to the shortage of houses it has been impossible to deal with the cellar dwellings, which exist in rather a large number in the Borough.

Schools.

The sanitary condition and water supply of the public elementary schools is satisfactory, and owing to the absence of any serious epidemics, it was not found necessary to close any school during the year.

Food.

There was no shortage in the supply of milk to the Borough during the year, and the only trouble complained of was the price charged by the farmers.

There is still a very large quantity of milk which is not produced under the best sanitary conditions, but there has been considerable improvement in this respect during recent years. It would be a great boon to the public if farmers would properly cool their milk immediately it comes from the cow, and procure for this purpose a proper apparatus. I think they begin to realise the necessity for doing this, but until pressure is brought to bear upon them, I am afraid the cooling of milk will not be generally carried out.

The number of dairies, cowsheds and milkshops on the register is as follows :—

| | | |
|-----------|-----|-----|
| Cowsheds | ... | 502 |
| Milkshops | ... | 42 |

The number of inspections of these premises during the year was 747, and in the majority of cases, like the proprietors of the bakehouses, limewashing is not carried out until pressure is brought to bear upon the occupiers.

With regard to the Milk (Mothers and Children) Order, 1918, the quantity of fresh milk supplied during the year under review was about 470 gallons, also a large quantity of the dried article was distributed.

Slaughterhouses.

There are 7 private Slaughterhouses situate within the Borough, of which number however, 6 only are in use.

| | In 1914. | In January 1920. | In December 1920. |
|------------|----------|------------------|-------------------|
| Registered | 8 | 7 | 7 |
| Licensed | ... | ... | ... |
| | — | — | — |
| | 8 | 7 | 7 |

The following table shows the number of visits paid by the Meat Inspector to the slaughterhouses, butchers' shops, markets, &c. :—

| Description of Premises | Number of Visits |
|-------------------------|------------------|
| Public Slaughterhouses | 895 |
| Private Slaughterhouses | 64 |
| Borough Market | 313 |
| Wholesale Market | 314 |
| Fasting Sheds... | 228 |
| Potted Meat Houses | 113 |
| Tripe Boiling Houses | 56 |
| Butchers' Shops | 2151 |
| Cowsheds | 322 |
| Other Visits | 137 |
| Total | 4,593 |

The following table shows the number of animals slaughtered during the year, the number condemned, and the total weight of the same.

| | Cattle. | Calves. | Sheep and Lambs. | Pigs. | Offals. | Total. |
|---|---------|---------|------------------|-------|---------|--------|
| Number of Animals killed } | 7980 | 3458 | 15989 | 4143 | lbs. | 31570 |
| Do. condemned.. | 32 | 6 | 9 | 18 | ... | 65 |
| Number Condemned on account of Tuberculosis ... } | 7 | 1 | ... | 10 | ... | 18 |
| Weight of those condemned in lbs } | 9938 | 116 | ... | 1176 | 4812 | 16042 |

The following table shows the total weight of meat and offals destroyed on account of tuberculosis, and from other causes :—

| | |
|--|---------------|
| Total Amount of Meat Destroyed | lbs. 20586 |
| Total Amount of Offals Destroyed | 9230 |
| Total Amount of Meat Destroyed on account of Tuberculosis | 11919 |
| Total Amount of Offals Destroyed on account of Tuberculosis | 8652 |
| Total Amount of Meat Destroyed from other causes | 8667 |
| Total Amount of Offals Destroyed from other causes | 578 |
| Total Meat and Offals Destroyed ... | 29816 |

There were 448 separate seizures of meat and offals and 32 seizures of fish, fruit, etc., and the following table shows the weight of the various kinds of food destroyed as unfit for human consumption :—

| Kinds of Food Destroyed | Quantity in lbs. |
|---|------------------|
| 32 Carcases of Beef | 13538 |
| Beef not in Carcase ... } | Fresh 700 |
| Imported Beef not in Carcase } | Imported 1283 |
| 6 Calves | 271 |
| 9 Carcases of Mutton | 360 |
| 23 Carcases of Imported Mutton and Lamb ... | 1003 |
| Mutton and Lamb other than Carcases ... | 51½ |
| 18 Carcases of Pork | 2152 |
| Pork not in Carcase | 412 |
| 89 Rabbits | 155 |
| Fish | 19509 |
| Fruit and Vegetables | 2712 |
| Canned Provisions | 431 |
| 978 Eggs | |
| 22 Boxes of Chocolate | |
| Total Weight ... | 42557½ |

In only 1 case was it necessary to obtain a Justices' Order.

Sale of Food and Drugs Acts, 1875 to 1907.

"THE SALE OF MILK REGULATIONS, 1901."

"THE PUBLIC HEALTH (MILK AND CREAM) REGULATIONS, 1912," AND

"THE SALE OF MILK REGULATIONS, 1912."

Mr. H. T. Lea, B.Sc. (Hons.), M.Sc., A.I.C., the Borough Analyst, has submitted to me the following report upon the samples he has analysed for your Committee during the year 1920 :—

There were 253 samples taken under the Food and Drugs Acts and the above named regulations during the year, that is 2.41 per thousand head of population.

Sixteen of the samples analysed were definitely adulterated and a further thirteen were unsatisfactory.

The following table shows the nature of the article dealt with and the inferences drawn from the results of the examination :—

| Article. | | | | Genuine | Adulterated. | Unsatisfactory |
|---------------|-----|-----|-----|---------|--------------|----------------|
| Milk | ... | ... | ... | 123 | 16 | ... |
| Vinegar | ... | ... | ... | 9 | ... | ... |
| Malt Vinegar | ... | ... | ... | 17 | ... | 13 |
| Cream | ... | ... | ... | 13 | ... | ... |
| Lard | ... | ... | ... | 10 | ... | ... |
| Rice | ... | ... | ... | 10 | ... | ... |
| Cocoa | ... | ... | ... | 8 | ... | ... |
| Butter | ... | ... | ... | 6 | ... | ... |
| Coffee | ... | ... | ... | 8 | ... | ... |
| Treacle | ... | ... | ... | 6 | ... | ... |
| Sugar | ... | ... | ... | 6 | ... | ... |
| Baking Powder | ... | ... | ... | 4 | ... | ... |
| Olive Oil | ... | ... | ... | 4 | ... | ... |
| | | | | 224 | 16 | 13 |

I have reason to believe that many of the above samples were taken informally, though I have not been advised as to the actual samples taken by this means.

Throughout the year no samples were taken of drugs or medicinal preparations. This leniency of the Local Health Committee is to be deplored, as many commodities which fall under the scope of the act are thus sold without check or control.

In my opinion insufficient attention is also paid to sweetmeats, arsenic may find its way in through the use of inferior sugar, while talc and other mineral matters of an objectionable nature are used to give polish or increase the weight.

139 samples of Milk were examined, 16 of these were below the standard fixed by The Sale of Milk Regulations 1901, or 11.5 per cent. of the samples taken. There is no excuse whatever for this large percentage of adulterated milks, as the standard of milk in the Borough is high and compares very favourably with that of many large towns. There were four cases in which legal proceedings were instituted; in the first case a milk dealer was fined £2 including costs, for selling a milk with 9 per cent. of added water; in the second case a farmer was prosecuted on two counts, one added water to the extent of 22 per cent. and one added water to the extent of 11 per cent., the latter was dismissed owing to the "smallness" of the deficiency, and the former was also dismissed because the analyst spent too long a time over the analysis, Thursday mid-day to the following Monday morning; surely any comment on these extraordinary verdicts are unnecessary. In a third case a farmer was alleged to have added ten per cent. of water to his milk, this case was also dismissed. When the fourth case of a farmer adding 11, 20 and 7 per cent. of water to milk was heard and again dismissed, The Local Authority decided to appeal. The appeal was heard in London during March this year and sent back to the magistrates to convict. A penalty of £1 and costs was imposed. Other cases during the year were dealt with by the Medical Officer who wrote to the offenders.

39 types of Vinegar were sampled during the year; of these 9 were bought as "vinegar" and proved to be artificial vinegar of correct strength, *i.e.*, above 4 per cent. Acetic Acid content. 13 of the remaining samples were unsatisfactory, as the purchaser asked for Malt Vinegar but received artificial vinegar. In five cases, proceedings were instituted, and in each, judgment was given in favour of the plaintiff with costs. In my opinion the vendors of unbrewed vinegars should be compelled to declare the quality of the article to would-be purchasers.

The remaining samples of butter, cream, coffee, sugars, etc., were of good quality and complied in every respect with The Sale of Food and Drugs Acts.

Fertilisers and Feeding Stuffs Act, 1906.

Six feeding stuffs and ten fertilisers were analysed at this laboratory under the Act during the year. All the feeding stuffs and seven of the fertilisers were quite satisfactory.

Two of the three unsatisfactory fertilisers were normal in composition but the manufacturers had contravened the principal of the Act by not submitting a chemical analysis with the small retail packets of the fertiliser. The Local Authority following the advice of The Ministry of Agriculture and Fisheries wrote to the manufacturers concerned.

The remaining sample was unsatisfactory, for although labelled and sold as a fertiliser and insecticide, had no value whatever as a fertiliser.

Prevalence and Control of Infectious Diseases.

The prevalence of infectious disease has been already commented upon in the earlier part of this report, but I desire to add a few further remarks upon this subject.

With regard to tuberculosis the following table gives further particulars relative thereto.

| Localisatiion of Disease | Sex | Primary Cases | | | Notified more than once | | | |
|-----------------------------|-------|---------------|----|------------------|-------------------------|-------|-----|-------|
| | | Forms | | Total Primary | Supple- mentary | Forms | | Total |
| | | A | B | | | C | D | |
| Pulmonary | Male | 51 | 2 | 53 | 6 | 1 | ... | 60 |
| | Fmale | 48 | 3 | 51 | 3 | ... | 1 | 55 |
| Non-Pulmonary | Male | 6 | 4 | 10 | 1 | ... | ... | 11 |
| | Fmale | 6 | 3 | 9 | ... | ... | ... | 9 |
| Total ... | ... | 111 | 12 | 123 | 10 | 1 | 1 | 135 |

Although the number of cases of tubercular disease notified is rather less than during the previous year, it would appear that the disease has been, on the whole,

more completely notified than formerly, as we have come across fewer cases during the year of which no report had been made.

With regard to the treatment of tuberculosis, the Corporation's scheme is still incomplete in the sense that we have so far, no provision for the treatment of surgical tuberculosis, nor have we a sanatorium for children.

Apart from the above we have ample accommodation for dealing with the disease, and as a matter of fact, have now a number of beds to spare, and are able to admit a few cases from outside districts.

The medical profession generally, have continued to co-operate with the Clinical Tuberculosis Officer, by recommending patients to the Dispensary, and in other ways.

The Dispensary Nurse periodically visits all the cases on her list, and the Visitors connected with the After-care Committee of the Council of Social Welfare, also keep these cases under observation, and are rendering a considerable amount of help in necessitous cases, as the following short extract from the Report of the Council of Social Welfare will show :—

“ The Council of Social Welfare, in conjunction with elected representatives of various public bodies ; several voluntary societies and public officials, constitute a representative committee, responsible for the administration of the above work, under a scheme which has been approved by the Ministry of health.

During the year, 44 cases have been under the supervision of the Committee's Voluntary Visitors. 32 of these were patients who had been discharged from the Halifax Sanatorium, Shelf, notified by the Tuberculosis Officer, 5 were sent by individuals, 5 applied personally, and 2 were referred by the Insurance Committee. These cases have been periodically visited, and written reports have been received as to their progress. 310 visits have been paid during the year, and 280 reports have been received and considered by the case sub-committee.

The Board of Guardians kindly gave 20 bedsteads for the use of those who cannot afford to obtain them,

With regard to the voluntary visitors connected with the After-care Committee, the Tuberculosis Officer highly appreciates the excellent reports and information on the cases referred to them."

Only 3 "return" cases of scarlet fever were notified during the year, which is only slightly above 1% of the cases reported. We have had fewer "return" cases of this disease, since mild and uncomplicated cases have only been detained in hospital during the period of four weeks.

The following table gives a summary of the bacteriological work, carried out in the laboratory at the Tuberculosis Dispensary.

| Disease | No. of Specimens | Results of Examinations | |
|----------------------|------------------|-------------------------|----------|
| | | Positive | Negative |
| Sputum | 380 | 97 | 283 |
| Diphtheria | 261 | 51 | 210 |
| Miscellaneous | 50 | ... | ... |
| Totals | 691 | 148 | 493 |

The policy of not discharging cases of diphtheria from the isolation hospital, until a negative result has been obtained, has continued throughout the year.

Venereal Diseases.

In conjunction with the County Authority, a joint clinic, for the treatment of venereal diseases, is held at the Royal Halifax Infirmary.

The Clinic is open for women and children every Tuesday afternoon from 3-30 to 5-30, and from 6 to 8. For men, every Thursday between 6 and 8 p.m. Also an auxiliary treatment centre for men is open daily from 10 a.m. to 12 noon, and 6-30 to 8-30 p.m., and on Sundays from 10 a.m. to 12 noon. It appears that these arrangements are sufficient and adequate for the needs of the Borough.

There is a Medical Officer and Assistant Medical Officer in charge of this clinic.

The following figures refer to patients attending the Treatment Centre :—

| | | | |
|---|------------------------|-----|------|
| Examinations of pathological material | ... | ... | 1142 |
| Doses of Salvarsan substitute given | ... | ... | 1003 |
| No. of patients, residing in the Borough, under treatment during the year : | Males 792, Females 452 | | 1244 |

There are 4 medical practitioners, not including the two officers of the clinic, in the Borough, qualified to receive free supplies of Salvarsan substitutes, and 177 doses of these substitutes have been supplied. The number of cases treated by private practitioners does not appear to be available.

There were 115 specimens sent to the pathological laboratory provided by the Council, by the general practitioners, during the year.

Report of the Medical Officer for Maternity and Child Welfare.

MIDWIVES :—There are 20 midwives practising in the Borough, as the following list of midwives, registered at the Health Office during the year, will show :—

| Name | Address |
|------------------------|-----------------------------------|
| Shutt Lottie ... | Nursing Home, 27, Clare Rd. |
| Reynolds Clara A. .. | Do. do. |
| Hill Charlotte Ada ... | Do. do. |
| Wilson Elizabeth ... | 1, Shoemith's Buildings, Hx. |
| Ogden Emma ... | 42, Burnley Road, Halifax |
| Lake Lucy ... | 14, Bolton Street, Halifax |
| Shelley Emelina ... | 61, Haley Hill, Halifax |
| Metcalfe Minnie ... | 38, Taylor Street, Halifax |
| Taylor Maria ... | 6, Lane End, Hipperholme |
| Dakin Elizabeth A. ... | 13, Church Hill, Luddenden, Hx. |
| Hay E. A. ... | Nursing Home, 27, Clare Rd. |
| Law Marian ... | Do. do. |
| Good Mary E. ... | 40, Union Street South, Hx. |
| Bredin Margaret ... | Nursing Home, 27, Clare Rd. |
| Wade Phœbe ... | 66, St. Peter Street, Halifax |
| Sutcliffe Ellen ... | 6, Spindle Street, Holmfield, Hx. |
| Aaron Hannah ... | Lane Ends, Wheatley, Halifax. |
| Connew Sarah ... | 23, Clay Street, Halifax |
| Hoyle Elizabeth ... | St. Annes Road, Halifax. |
| Talmarsh Lydia ... | 59. Church Street, Halifax. |

39 visits to the midwives were made during the year, and, on the whole, the registers were well kept. Of the 20 practising midwives on the list, only eight possess the C.M.B. qualification. The others are practising in virtue of the fact that they were already *bona fide* midwives when the Act of 1902 was introduced.

The value of modern methods in safeguarding mother and child is not sufficiently appreciated by many of the poorer mothers, and they rather grudge the small outlay on antiseptics and cotton wool, etc., advised by the more carefully trained midwives, so that, unfortunately, the size of a midwife's clientele is not always in proportion to her observance of those rules which promote the well being of her patients. As the older midwives retire, their places should be taken by trained women possessing the C.M.B. qualification.

The standard required by the Central Midwives Board is now a high one, as the importance of the calling can hardly be over estimated.

Some municipal provision for the institutional treatment of women during child birth and the puerperium is urgently required in Halifax.

Since the Maternity Home in Clare Road concluded its beneficent service, in April, 1920, there has been no institution to which an expectant mother could go for her confinement, without paying £2 2s. or £3 3s. at least, per week, except the Poor Law Hospital.

The women in the Maternity wards of the Union Hospital are extremely well cared for, but as so many unwanted babies are born there, to unmarried mothers, of doubtful character, married women naturally feel that "home" is a preferable birth-place for their children, however insanitary and crowded it may be. Many women are confined in one roomed dwellings, and over a third of the maternity cases attended by the Clare Road midwives are in two roomed houses. No further advance has been made with regard to the provision for institutional treatment of ailing infants and young children.

Illegitimate children are very severely handicapped, as often they have no settled home, being put out to nurse, first with one woman and then with another, whilst the mothers are working in mill or factory.

Notices were received during the year of 38 cases in which medical aid had been summoned by midwives.

There were two cases of puerperal fever notified, and 14 cases of ophthalmia neonatorum.

Considerable extension of the Maternity and Child Welfare work has taken place since the appointment of a full time Medical Officer for this work, at the end of September, 1920.

A clinic for ante-natal and post-natal supervision of mothers was started on October 28th, and has already rendered considerable service.

It is held every Thursday afternoon, and its usefulness will increase as the mothers become familiar with its purpose.

A new infant consultation clinic was started at Range Bank Sunday School on October 4th, and is taken advantage of by many poor mothers, who would not attend the Wade Street clinic.

A similar Branch clinic was opened at Queen's Road Primitive Methodist Sunday School, on December 7th, and this is well attended, being conveniently situated in a very populous district.

Two new morning clinics at Wade Street have also been opened, and are much appreciated by the mothers, as they are not so crowded as the afternoon clinics, and the waiting is less irksome in consequence.

A third assistant Health Visitor has been appointed to help with the greatly increased work. A few particulars are subjoined.

There were 1,815 births notified, and the number registered was 2,007, so that 90.4 per cent. of the births were reported, against 94.1 per cent. last year. This decline in notification is regrettable, as un-notified poor babies may be neglected. There were 78 notifications of still births.

The number of visits paid by the Senior Health Visitor to notified births was 116. She also paid 573 visits to infants, other than newly born. The Assistant Lady Health Visitors paid 6,271 visits during the year.

Of the births notified, 949 were attended by medical practitioners, and 866 by midwives.

Of the 1,169 infants visited, 904 were breast-fed at birth, 65 breast supplemented by bottle feeding, and 162 entirely bottle fed. Unfortunately, this high percentage of breast feeding is not maintained when the mothers resume their duties.

Some cases of still birth are included in above number of visits.

689 new babies were brought to the clinics during the year.

The attendances made by the infants already on the books, together with these newly enrolled infants, totalled 5,609.

ALICE LATCHMORE, M.D.

Sanitary Administration.

Hospital Accommodation :—The Borough Fever Hospital is situated at Stoney Royd, Halifax, and contains 72 beds, 12 of which have been allotted for the treatment of advanced cases of consumption.

For several years past, this accommodation has been more than necessary, and there have generally been a certain number of empty beds in the institution. The policy of only keeping mild cases of scarlet fever for a period of four weeks, has helped considerably in this direction.

The smallpox hospital situated at Belle Vue, Mount Tabor, has not been needed during the year, but is kept ready for the reception of any case that may arise.

On January 1st, 1920, there remained in the Borough Fever Hospital, 13 cases of scarlet fever, and 18 of diphtheria. During the year a total of 257 cases, including 28 from outside districts, were admitted.

The following table shows the number of cases admitted of each disease, and the mortality from the same :—

| Disease | | | Number Admitted | Deaths | Case Mortality per cent. |
|--|-----|-----|--------------------|--------|-----------------------------|
| Diphtheria | ... | ... | 72 | 4 | 5·5 |
| Scarlet Fever | ... | ... | 143 | ... | ... |
| Enteric Fever | ... | ... | 4 | ... | ... |
| Tuberculosis | ... | ... | 38 | 9 | 23·6 |
| Total | | | 257 | 13 | 5·0 |
| Case mortality apart from Tuberculosis | | | | | 1·8 |

Two cases of tuberculosis died within 24 hours of admission to hospital.

The staff of the Health Department was complete throughout the year, but through the absence of two of the district sanitary inspectors, owing to illness, the Department was understaffed in that respect during a part of the year.

The steam disinfecter is situated at the Borough Fever Hospital, and 14,471 articles of bedding, clothing, etc., were disinfected during the year. Also 668 rooms in private houses, and 215 library and other books were disinfected in a special apparatus which is provided for that purpose.

Housing.

The total number of houses in the Borough is 28,052 and the number of working class houses is about 20,000.

There were 12 new houses erected and completed, for working classes, during the year under review, and the Committee purchased 16 untenanted houses, for a nominal sum, in a congested area. Six of them were pulled down, so as to increase the air space around them, and the remainder were renovated, so that there are now 10 extra houses occupied, over and above the new ones just referred to.

The shortage of houses remains practically the same as during the previous year, but I think it is quite probable that there has been a certain number of families leave the town.

There is, however, undoubtedly a considerable amount of overcrowding, though I think this is not so acute as during the previous year. There are, I believe, a number of houses occupied by two or more families.

The general standard of housing in the Borough is good, and even in the slum, or quasi-slum areas, the houses are generally substantially built.

The general character of the defects found are chiefly in connection with drainage and sanitary conveniences, as well as the provision of troughings and down-spouts, but a good deal of work has been done during the past year in removing these defects.

Owing to the illness of two of our District Sanitary Inspectors, it was not possible to carry out, during the year, so much house to house inspection as is desirable, but under the conditions existing, the best possible has been done, and the following statistics show the amount of work done under the various headings referred to therein :—

I. GENERAL.

| | |
|---|---------|
| 1. Estimated Population | 106,029 |
| 2. General Deathrate | 13.3 |
| 3. Deathrate from Tuberculosis (all forms)... | .87 |
| 4. Infantile Mortality | 96 |
| 5. Number of dwelling houses of all classes... | 28,052 |
| 6. Number of working class dwelling houses... | 20,000 |
| 7. Number of new working class houses erected | 12 |
| Number of dilapidated empty houses renovated and made fit by Health Committee | 10 |

UNFIT DWELLING HOUSES.

1.—Inspection.

| | |
|--|-------|
| 1. Total number of dwelling houses inspected for housing defects (under Public Health or Housing Acts) ... | 1,119 |
| 2. Number of dwelling houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910 | 218 |
| 3. Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation | None. |

Impossible to condemn any house under present conditions.

| | |
|--|-------|
| 4. Number of dwelling houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation | 119 |
| 2.—Remedy of defects without service of formal notices. | |
| Number of defective dwelling houses rendered fit in consequence of informal action by the Local Authority or their officers... .. | 451 |
| 3.—Action under Statutory Powers. | |
| A. Proceedings under Section 28 of the Housing, Town Planning, &c., Act, 1919. | |
| 1. Number of dwelling houses in respect of which notices were served requiring repairs | None. |
| 2. Number of dwelling houses which were rendered fit— | |
| (a) by owners | None. |
| (b) by Local Authority in default of owners | None. |
| 3. Number of dwelling houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close | None. |
| B. Proceedings under Public Health Acts. | |
| 1. Number of dwelling houses in respect of which notices were served requiring defects to be remedied... | 606 |
| 2. Number of dwelling houses in which defects were remedied— | |
| (a) by owners | 589 |
| (b) by Local Authority in default of owners | None. |
| C. Proceedings under Sections 17 and 18 of the Housing, Town Planning, &c., Act, 1909. | |
| 1. Number of representations made with a view to the making of Closing Orders | None. |
| 2. Number of dwelling houses in respect of which Closing Orders were made | None. |

- | | | |
|---|--------|-------|
| 3. Number of dwelling houses in respect of which Closing Orders were determined, the dwelling houses having been rendered fit | | None. |
| 4. Number of dwelling houses in respect of which Demolition Orders were made | | None. |
| 5. Number of dwelling houses demolished in pursuance of Demolition Orders | | None. |

3. UNHEALTHY AREAS.

Areas represented to the Local Authority with a view to Improvement Schemes under (a), Part I., or (b), Part 2, of the Act of 1890 :

- | | |
|--|--------|
| 1. Name of Area | |
| 2. Acreage | |
| 3. Number of working class houses in area | |
| 4. Number of working class persons to be displaced | |

Impossible to deal with this matter under present conditions.

- 4.—Number of houses not complying with the building bye-laws erected with consent of Local Authority under Section 25 of the Housing, Town Planning, &c., Act, 1919

5

- 5.—Staff engaged on housing work with, briefly, the duties of each officer—

Four District Sanitary Inspectors, each Inspector being responsible, in his own district, to the Medical Officer of Health. Their duties, so far as housing is concerned, consist in the carrying out of necessary inspections, negotiations with owners, and supervision of repairs.

The inspection of furnished rooms and houses let in lodgings has been previously dealt with in this report, and I have nothing to add thereto except to reiterate that the existing bye-laws should be amended, so as to increase the amount of rent stated therein, or a large number of these houses will pass outside the operation of the present bye-laws.

SHOP INSPECTOR'S ANNUAL REPORT.

1st January to 31st December, 1920.

| | | | |
|---|-----|------------------------|-----|
| Half-holiday Closing Visits | ... | ... | 582 |
| Assistants' Half-holiday Visits | ... | ... | 592 |
| Bye-Law (Children's) | „ | ... | 913 |
| Registration & Administrative Visits | ... | ... | 730 |
| Special | „ | ... | 292 |
| Fabrics (Misdescription) Act | „ | ... | 217 |
| Rats and Mice Destruction Act | „ | ... | 730 |
| Early Shop Closing | „ | ... | 242 |
| Shops without Assistants Half-holiday Notice (Sec. 1) | | | 69 |
| Do. Young Persons' | „ | (Sec. 2) | 31 |
| Do. Mixed Business | „ | (Sec. 10) | 122 |
| Do. Seats for Female Assistants | | (Sec. 3) | 4 |
| Contravention of Mealtimes | | (Sec. 1, Sub. 5) | 6 |
| Do. Assistants Half-holiday | | (Sec. 1, Sub. 1) | 13 |
| Do. Half-holiday Closing | | (Sec. 4) | 209 |
| Do. Early Closing Act or Orders | | (Sec. 5) (1920 Act) | 31 |
| Do. Young Persons' Hours | | (Sec. 2) | 10 |
| Do. Children's Bye-Laws | ... | ... | 70 |
| Warning Notices sent ... | ... | ... | 16 |

RATS AND MICE DESTRUCTION ACT.

| | |
|--|-----|
| The number of Rat-infested premises are (for 1920) | 95 |
| „ „ „ „ temporarily cleared | 37 |
| „ „ of Rat tails brought to Health Dept. ... | 881 |
| „ „ of Rats killed in addition to above ... | 124 |

Ventilation of the Home in relation to Public Health.

Oxygen is as necessary for the maintenance of perfect health and vigour as the supply of proper and sufficient food. The majority of the public probably know this, yet only a comparatively small minority appear to take practical steps to secure that efficient supply required to maintain health. Out of 1,419 houses inspected during the night in September last, only 498 had open bedroom windows, or rather over one third. We spend something like one third of our lives in bed, and if the above figures be typical of the whole of the Borough, then about two thirds of its population spend a third of their lives in a vitiated atmosphere, and that too when they are resting and should be recuperating their strength for the succeeding day's work.

These observations were taken during congenial autumn weather. What would have been the result had they been made during the winter months I cannot say.

Now air breathed should approximate in purity the outside air, and in order to secure this an hourly supply of at least 3,000 cubic feet per person is required. This means that there must be (with air moving at the rate of 5 feet per second) an opening or inlet having an area of about 24 square inches, together with an outlet of rather larger size. The inlet should be provided by opening the window. No other method is so efficient, and no other method is necessary. But some may be ready to say this

is all very well during calm days, but what about high windy weather, and foggy nights? For such cases a frame should be provided to fit the opening in the window, across which fine meshed gauze should be stretched, this would break the force of the wind, and still allow free ventilation, and would also filter the air in its passage into the room, and obviate any inconvenience or unpleasantness arising from such conditions.

There has been a good deal of discussion about the size of rooms recently, and some people seem to imagine that cubic space is an efficient substitute for ventilation. This idea is most erroneous: A fair sized cottage bedroom will probably contain 2,000 cubic feet of air, with two occupants it means 1,000 cubic feet each. This is sufficient without renewal to last them 20 minutes only instead of the requisite 8 hours. It is obvious, therefore, that one person would require an unventilated air space of 24,000 cubic feet to last him 8 hours—a space equal to about 12 cottage bedrooms.

A consideration of these facts serves to show the absurdity of bye-laws fixing cubic space only. What is required is a bye-law to secure the opening of bedroom windows. There is no power to make such a bye-law, nor is it likely to be secured, because it would be regarded as interfering with the liberty of the subject.

The only power to make bye-laws requiring bedroom windows to be opened has reference to common lodging houses, and in these cases the windows have to be opened during a certain period of the day, and not at night. During the night the atmosphere is freer from contamination with smoke, and from dirt through the cessation of traffic in the streets, and it is during the night that the open window is most needed. If bedroom windows were open during the night it would not matter much if they were closed throughout the day, so that the bye-law having

reference to common lodging houses is of little value because it enforces the open window at the wrong time. Even overcrowding would not be a menace to health provided bedroom windows were opened at night, and there was sufficient accommodation in houses to secure a proper separation of the sexes.

There has been a good deal of discussion with reference to the small size of the rooms provided in the new houses. A small room with an open window is far healthier than a large room with a closed window, and even under existing conditions with closed doors and windows, two small rooms are more healthy, say for four people to occupy, than one large room, because in one room there is one door, one window, and one chimney only, whereas in the case of two rooms having only a combined cubic space of the large one, there will be two doors, two windows, and two chimneys, or double the facility for renewing the air which obtains in connection with the large room, and in a closed room the only inlets for air are the crevices around the doors and windows and the chimney as outlets.

Now Carbonic Acid Gas is not a direct poison to an individual for it circulates freely in the blood. It acts only as an indirect poison by excluding the necessary oxygen. The presence of an excess of carbonic acid in the air breathed is not particularly injurious to the human being unless, of course, the excess is very great. It only means that the person has to breathe more quickly to obtain the necessary amount of oxygen to maintain life, and this means also an acceleration of the heart's action. Persons sleeping in closed bedrooms will of necessity be breathing air containing an excess of carbonic acid and cannot, therefore, enjoy thoroughly sound sleep, because the slowing down of the heart's action is necessary to secure restful, refreshing and healthy repose.

Although carbonic acid is not a direct poison ; when present in the air in increasing excess it must to a certain degree interfere with the due aeration of the blood, and probably to some extent retard the flow of blood through the lungs.

In an unventilated room the air soon becomes stagnant and moisture is given off from the bodies of the occupants, and from the lungs in expired air, so that the atmosphere of such a room soon becomes charged with moisture, and more or less saturated therewith. It is the presence of stagnant air, saturated with moisture, which makes unventilated rooms unhealthy, more than the existence of a certain excess of carbonic acid gas. Stagnant and moist air can absorb little or no more moisture. It requires to be set in motion before this can be done, and moving air will always absorb more moisture than when it is stagnant.

The normal temperature of the human body is 98.6° and healthy tissue change and normal nutrition can only take place within narrow variations of that temperature, and certainly within a very narrow limit above that point.

As a result of the constant chemical changes going on in the body, and more particular the oxidation of carbon compounds, a large amount of heat is constantly produced within the body. The surplus heat, over and above what is required to maintain the body at its normal temperature, has to be got rid of. There is a constant production of heat, and there must of necessity be a constant loss in order to maintain a constant temperature. This loss is brought about in three ways, by radiation of heat from the body, by convection, that is heat is conveyed from the body to the clothes, and from them to the outer air, and thirdly by evaporation. When water passes into the state of vapour it takes up a large amount of heat in the process, in fact, it cannot pass from the liquid condition into vapour without doing so, and this is perhaps the most important factor in regulating the temperature of the body. Water is ex-

creted from the glands or pores of the skin and passes into vapour, and in so doing takes up heat from the body. When an individual is confined in a room in which the air is stagnant, and saturated with moisture, there is an interference in this process, and a strain is thrown upon the mechanism for regulating the temperature of the body. A relaxed condition of body, and a state of fatigue results in consequence. What is wanted then is a greater cooling power. Greater cooling power increases tissue change, and raises it to a higher level of health, and children require even greater cooling power than adults, because in them tissue change is more active. The lining membrane of the nose should be pale and taut, and if touched with a probe should not pit, and there should be no thick secretion of mucus upon it. In fact, it is well known how exposure to a cool wind makes the eyes water and the nose run—signs of that flood of fluid which is poured out to keep those exposed surfaces wet and warm.

In a badly ventilated room with warm, moist, and stagnant air, the lining membrane of the nose becomes swollen, congested, and covered with thick secretion. A probe pushed into the swollen membrane forms a pit showing how boggy it is. Possibly similar conditions exist also deeper down the respiratory track. Suppose a subject to the above condition goes outside into the cold air, the lining membrane of the nose at once becomes pale, but it remains for some time swollen and boggy, pitting on the touch with a probe.

If the above condition of things and sequence of events only happened occasionally it perhaps would not matter very much, but when it is remembered that perhaps the majority of the public sleep amid conditions in which this state of matters is constantly and continually occurring, it can be understood how that after a time diseased conditions of the nose and air passages eventually supervene.

We hear a good deal about mouth breathing in children. Is it to be wondered at that children become mouth breathers when they sleep regularly from early age in surroundings which cause the nasal passages to become constricted and more or less occluded? If children were put to sleep in rooms with open windows we should see fewer cases of mouth breathing with its deleterious consequences.

Again, the condition of the mucuous membranes described above favour the development and growth of bacteria finding their way into these passages. The various bacteria responsible for infective colds,—influenza, pneumonia, and other diseases of the respiratory track, and thus these diseases develop and spread.

Even the spread of tuberculosis is favoured by these conditions, and be it remembered that tubercular infections frequently take place at an early age. Its beginnings can often be traced in childhood. If children with this tendency regularly slept in rooms, open to the outer air, they would attain more healthy vigour, acquire a greater resistance to the disease, and would be much less likely to develop tuberculosis of the lungs in after years. Knowing these facts, and realizing the difficulty of persuading the public generally to adopt the open bedroom window, I suggested a few years ago the provision of bungalows with open air bedrooms for consumptive families. Although this scheme was a very modest one it met with opposition; it has been balked and blocked at every turn, and has not been carried out, showing how difficult, how almost impossible it is to secure the accomplishment of a beneficial reform, even though it be for the advancement of public health, and based upon sound scientific principles, and obvious natural laws.

I believe that children attending school pick up infective germs in their class rooms, and certain members of families attending cinemas, and other places of entertainment, and

also in workshops, etc., do the same thing. They return home, and sleep in closed bedrooms, and diseases develop under the favourable conditions present therein.

I do not wish to convey the idea that if the public generally adopted the open bedroom window that infectious colds and allied diseases would cease to exist, but I do contend that such action would materially lessen the incidence of catarrhs of various forms, pneumonia and respiratory diseases generally, and that there would be a corresponding fall in the deathrate from these causes.

We are putting forward great efforts to reduce infant mortality, and spending large sums on infant welfare centres, and infant mortality has diminished. The tendency is to do more in this direction, but this work has its effective limits, and whilst I would not say that further extensions should not be carried out, I am convinced that a universal open bedroom window would do more towards the reduction of infant mortality than even the extension of this beneficial work, and this result would be achieved, too, without any cost to either the national or local exchequer.

As I have previously said oxygen is as necessary to health as food, and without a pure air supply the full value and benefit cannot be got from the food consumed.

Food is being supplied to necessitous cases at the public expense in tubercular cases through the Insurance Committees, and these people are being continually told to sleep with an open bedroom window. The same thing is being done from maternity centres, and similar instructions given. No one knows whether these instructions are carried out. I contend that, generally speaking, the open bedroom window should be a condition upon which such food is supplied, and that night inspectors should be appointed to make periodical visits to such houses to see that instructions

in this respect are carried out. When public money is being used the public have a right to see that it is expended to the best possible advantage.

As things are to-day many people work in ill-ventilated factories and workshops, and children attend schools, where ventilation is unsatisfactory. They in each case go home to sleep in closed bedrooms, and in that way spend 16 to 17 hours of their daily life in a vitiated and stagnant atmosphere. Is it to be wondered at that ill-health results? How are these conditions to be improved? I fear only by a long and tedious process of education, and it is doubtful if any marked headway can be made in the present generation, because they are so steeped in the traditions of the past, and they so enshrine and cherish the habits and customs of their forefathers that precept, however forcible, is more or less unavailing.

The greatest hope lies in the rising generation, and advantage should be taken of every opportunity in our elementary schools, and other educational institutions, to instil into the minds of the young both by precept and example, the scientific facts relating to ventilation generally, because the greater the number of people who can be prevailed upon, so to speak, to live in the open air, the higher will be the general standard of health in the community at large.

(Signed) JAS. T. NEECH, M.D., D.P.H.,
Medical Officer of Health.

Public Health Department,
Town Hall,
Halifax. 28th February, 1921.